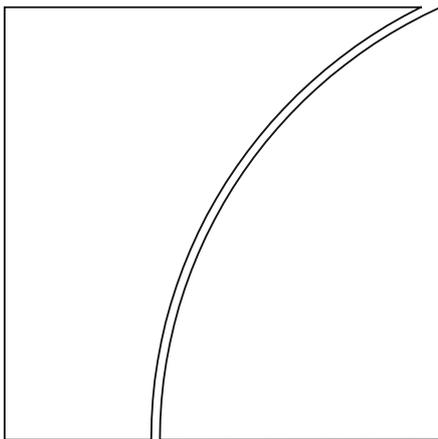# Basel Committee on Banking Supervision

The G-SIB assessment methodology – score calculation

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BANK FOR INTERNATIONAL SETTLEMENTS

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Contents

1.   Background

Following the global financial crisis, there has been renewed scrutiny on the impact that the failure of large financial institutions could have on the broader financial system. The interconnected nature of today's global systemically important banks (G-SIBs) has contributed to a system where the potential failure of a single large institution can have wider effects that reverberate throughout the global economy. This in turn has led to the Basel III reforms, spearheaded by the Basel Committee on Banking Supervision (BCBS), which aim to improve the resiliency of banks and banking systems.[1] Over and above the higher requirements for all internationally active banks, the Committee's G-SIB standards require additional going-concern loss absorbency for G-SIBs.[2]

This document will serve as a guide to calculating a bank's score from the financial information captured on the BCBS G-SIB reporting template. This template, as well as other information referred to below (such as exchange rates, sample totals), have been compiled on the Committee's G-SIB webpage.[3] This score, which captures the global share of activity and systemic risk that a bank poses to the larger financial system, is used in determining the higher loss absorbency (HLA) requirement. This HLA requirement will be phased in starting on 1 January 2016.

2.   Overview

The G-SIB framework compares a bank's activity over 12 indicators (grouped into five categories of systemic importance) with the aggregate activity of all banks in the specified sample (see Section 3.2). The resulting numerical score represents a bank's activity as a percentage of the sample total and is used to determine the bank's overall HLA requirement. Higher scores result in higher HLA requirements. As a consequence, banks that are larger, more interconnected, less substitutable, more cross-jurisdictional, and/or more complex will have greater HLA requirements and thus be better positioned to withstand financial distress.

3.   The score calculation[4]

3.1   Indicators and categories

A bank's score consists of a weighted average of 12 indicators across five categories. Table 1 provides the category, line item number (consistent with the number in column G of the G-SIB reporting template) and weight for each indicator.

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[1]   See Basel Committee on Banking Supervision, *Basel III: A global regulatory framework for more resilient banks and banking systems - revised version*, June 2011, www.bis.org/publ/bcbs189.htm.

[2]   See Basel Committee on Banking Supervision, *Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement*, July 2013, www.bis.org/publ/bcbs255.htm.

[3]   The data collection materials are available at www.bis.org/bcbs/gsib/.

[4]   Unless otherwise noted, intermediate results and exchange rates are not rounded when computing scores.

Indicators and their weights			Table 1
Category	Indicator	Line item	Indicator weight
Size	Total exposures[1]	2o	1/5 = 20%
Interconnectedness	Intra-financial system assets	3f	1/15= 6.$\bar{6}$%
	Intra-financial system liabilities	4g	1/15= 6.$\bar{6}$%
	Securities outstanding	5i	1/15= 6.$\bar{6}$%
Substitutability/financial institution infrastructure	Payment activity	6n	1/15= 6.$\bar{6}$%
	Assets under custody	7a	1/15= 6.$\bar{6}$%
	Underwritten transactions in debt and equity markets	8c	1/15= 6.$\bar{6}$%
Complexity	Notional amount of OTC derivatives	9c	1/15= 6.$\bar{6}$%
	Trading and AFS securities	10f	1/15= 6.$\bar{6}$%
	Level 3 assets	11a	1/15= 6.$\bar{6}$%
Cross-jurisdictional activity	Cross-jurisdictional claims	12c	1/10= 10%
	Cross-jurisdictional liabilities	13d	1/10= 10%

[1] Note that the total exposures indicator is as defined in the leverage ratio worksheet of the December 2012 Basel III monitoring exercise. This is different from the leverage ratio exposure measure adopted by the BCBS in January 2014.

When calculating a bank's indicators, the data must be converted from the reporting currency to euros using the exchange rates published on the BCBS website. These rates should not be rounded in performing the conversions, as this may lead to inaccurate results.

Note that there are different sets of currency conversions on the website, each corresponding to a different fiscal year-end. Within each set, there are two conversion tables. The first is a point-in-time, or spot, conversion rate corresponding to the following fiscal year-ends: 30 September, 30 October, 31 December, and 31 March (of the following year). The second set is an average of the exchange rates over the relevant fiscal year.

The average rates over the bank's fiscal year should be used to convert the individual payments data into the bank's reporting currency. The 31 December spot rate should be used to convert each of the 12 indicator values (including total payments activity) to the G-SIB assessment methodology reporting currency (ie euros).

3.2   Denominators

Sample totals are used to normalise the indicator values for the purposes of calculating a bank's score. These sample totals are published on the Committee's G-SIB webpage. The sample itself consists of the largest 75 banks as determined by the Basel III leverage ratio exposure measure, along with any banks that were designated as a G-SIB in the previous year but are not otherwise part of the top 75. The sample totals, or denominators, represent the total reported activity for each of the twelve indicators. For example, the denominator for normalising Level 3 assets is calculated by adding together the total amount of Level 3 assets held by all banks in the sample.

3.3   Indicator and category scores

To calculate the score for a given indicator, the bank's reported value for that indicator is divided by the corresponding sample total, and the resulting value is then expressed in basis points (bps).

$$\frac{\text{Bank indicator (euros)}}{\text{Sample total (euros)}} \times 10,000 = \text{Indicator score (bps)}$$

To calculate the scores for the five categories, the scores for the indicators that fall within each category are averaged. For example, the complexity category score is the average of the three complexity indicator scores: OTC derivatives, trading and AFS securities, and Level 3 assets. Since the size category consists of only one indicator, the category score is simply the score for the total exposures indicator. Also, the substitutability/financial institution infrastructure category score is subject to a 500 bps cap.

3.4   The final score

The final score is produced by averaging the five category scores and then rounding to the nearest whole basis point.[5] Each of the five categories thus has an equal weight in determining the final score. The individual weights of the underlying indicators are provided in Table 1 above.

4.   Supervisory judgment

According to paragraph 30 of the Committee's G-SIB standards, a bank's score may be adjusted based on supervisory judgment. In these exceptional cases, the published bucket will not align with the calculated score. The decision to exercise supervisory judgment will generally reflect a variety of quantitative or qualitative factors not captured in the 12 indicators. For example, a set of ancillary indicators collected in Section 14 of the reporting template may be used in making such a determination. In the end, the Financial Stability Board and the relevant supervisory authorities, in consultation with the BCBS, make final decisions regarding the use of supervisory judgment.

5.   HLA requirement

The final score is translated into an HLA requirement using the score ranges shown in Table 2. The current cut-off score for G-SIB designation is 130 bps and the buckets corresponding to the different higher loss absorbency requirements each have a range of 100 bps.[6] For example, a bank with a score of 346 would fall into the third bucket, which corresponds to a 2.0% increase in Common Equity Tier 1 capital (CET1). The bucket thresholds, together with the substitutability cap, will remain fixed for at least the end-2013, end-2014 and end-2015 G-SIB assessments. The bucket thresholds have been set such that bucket 5 is empty. If this bucket should become populated in the future, a new bucket would be introduced to maintain incentives for banks to avoid becoming more systemically important. Each new bucket will be equal in size and the HLA requirement for new buckets will include 1.0% increases in CET1 (eg a sixth bucket would have a score range of 630–729 and correspond to an HLA requirement of +4.5% CET1).

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[5]   Fractional values between 0 and 0.5 are rounded down, while values from 0.5 to 1 are rounded up.

[6]   Cut-off scores and bucket thresholds are available at www.bis.org/bcbs/gsib/cutoff.htm.

End-2013 G-SIB buckets		Table 2
Bucket	Score range	HLA requirement
5	530–629	+3.5% CET1
4	430–529	+2.5% CET1
3	330–429	+2.0% CET1
2	230–329	+1.5% CET1
1	130–229	+1.0% CET1

The G-SIB surcharge (along with other components such as the countercyclical capital buffer as applicable) expands the 2.5% capital conservation buffer, which is subject to a three-year phase-in period. The applicable buffer will increase each year, starting 1 January 2016, by one quarter of the total buffer. The total buffer will be completely phased in starting from 1 January 2019 (see Table 3).

Phase-in period	Table 3
Year	Applicable capital conservation buffer[1]
2016	25% * [2.5% buffer + G-SIB HLA requirement (based on end-2013 data)]
2017	50% * [2.5% buffer + G-SIB HLA requirement (based on end-2014 data)]
2018	75% * [2.5% buffer + G-SIB HLA requirement (based on end-2015 data)]
2019	100% * [2.5% buffer + G-SIB HLA requirement (based on end-2016 data)]

[1] Note that other buffer components, such as the countercyclical capital buffer, may also apply.

6. Disclosure and data revisions

According to the BCBS standards, banks with total exposures of more than EUR 200 billion are required to disclose, at a minimum, the 12 indicators used in the G-SIB assessment methodology. Banks that have been designated as a G-SIB in the previous year that do not otherwise meet the total exposures threshold are also subject to the disclosure requirement. This information should be released within four months of the financial year-end – and, in any case, no later than end-July. Note that disclosed data are subject to revision.

The data submitted to the BCBS must match the information provided in the public disclosure. Should the disclosed data be revised, national supervisors must submit the revisions to the BCBS prior to the final submission deadline (generally around 1 August) in order for the changes to be included in the official score calculation. If the data are amended after the final deadline, banks should ensure that the values used in the official calculation remain publicly available.

7. Example calculation

This section provides an example score calculation using **hypothetical** data and is provided for illustrative purposes only. Note that the sample totals shown below **should not** be used to calculate actual bank scores. Refer instead to the sample totals posted annually on the BCBS website or calculate the totals as described in Section 3.2.

7.1   Indicator scores

A bank's indicator values and the associated sample totals are required to calculate a bank's indicator scores. The indicators for the largest global banks are published by the bank or the relevant supervisory authority, while the sample totals are published on the BCBS website. For the purposes of this example, suppose the relevant data are as appears in Table 4. Since all values are provided here in billions of euros, no unit or currency conversion is required. The bank's indicator scores are calculated by dividing the bank's indicator values by the corresponding sample totals and expressing the result in basis points. The calculation and results are also depicted in the table.

Example indicator score calculations (EUR billions)		Bank value		Sample total				Indicator score (bps)
Category	Indicator							
Size	Total exposures	2,000	÷	80,000	*	10,000	=	250
Interconnectedness	Intra-financial system assets	300	÷	10,000	*	10,000	=	300
	Intra-financial system liabilities	100	÷	8,000	*	10,000	=	125
	Securities outstanding	200	÷	10,000	*	10,000	=	200
Substitutability/financial institution infrastructure	Payment activity	100,000	÷	2,000,000	*	10,000	=	500
	Assets under custody	20,000	÷	100,000	*	10,000	=	2000
	Underwritten transactions in debt and equity markets	5	÷	5,000	*	10,000	=	10
Complexity	Notional amount of OTC derivatives	30,000	÷	800,000	*	10,000	=	375
	Trading and AFS securities	200	÷	5,000	*	10,000	=	400
	Level 3 assets	40	÷	1,000	*	10,000	=	400
Cross-jurisdictional activity	Cross-jurisdictional claims	150	÷	20,000	*	10,000	=	75
	Cross-jurisdictional liabilities	100	÷	20,000	*	10,000	=	50

Table 4

7.2   Category scores

The raw category scores are calculated by averaging the corresponding indicator scores. If binding, the substitutability cap must then be applied. The calculation and results are depicted in Table 5.

Example category score calculations (bps)				
Category	Average indicator score =	Raw score	Category cap	Final category score
Size	250 ÷ 1 =	250	-	250
Interconnectedness	(300 + 125 + 200) ÷ 3 =	208.$\overline{3}$	-	208.$\overline{3}$
Substitutability	(500 + 2000 + 10) ÷ 3 =	836.$\overline{6}$	500	500
Complexity	(375 + 400 + 400) ÷ 3 =	391.$\overline{6}$	-	391.$\overline{6}$
Cross-jurisdictional activity	(75 + 50) ÷ 2 =	62.5	-	62.5

Table 5

7.3   The final score and HLA requirement

The final score is calculated by averaging the five category scores and then rounding to the nearest whole basis point (see Section 3.4). Using the data from Table 5, the raw final score is

$$(250 + 208.\overline{3} + 500 + 391.\overline{6} + 62.5) \div 5 = 282.5 \text{ bps.}$$

Rounding this result to the nearest whole basis point produces a final score of 283 bps. This score corresponds to a G-SIB HLA requirement of +1.5% CET1 (see Section 5).

7.4   Phase-in period

During the phase-in period, the applicable portion of the capital conservation buffer will vary depending on the year (see Section 5). Table 6 shows how to calculate the buffer for an institution subject only to the minimum 2.5% and a 1.5% G-SIB HLA requirement in each year of the phase-in period; other components that extend the capital conservation buffer are assumed not to apply.

Buffers associated with a 1.5% HLA requirement	Table 6

Year	Applicable capital conservation buffer
2016	25% * [2.5% + 1.5%] = 0.625% + 0.375% = 1.0%
2017	50% * [2.5% + 1.5%] = 1.25% + 0.75% = 2.0%
2018	75% * [2.5% + 1.5%] = 1.875% + 1.125% = 3.0%
2019	100% * [2.5% + 1.5%] = 2.5% + 1.5% = 4.0%

Since the G-SIB HLA requirement is subject to change over time, buffers must be calculated using the requirement in effect for the given year. For example, the applicable capital conservation buffer for a bank subject to a 1.5% HLA requirement in 2016 is 1.0% (see table above). Should the bank be subject to a higher, 2.0% HLA requirement the following year, the applicable capital conservation buffer for 2017 would be

$$50\% * [2.5\% + 2.0\%] = 1.25\% + 1.0\% = 2.25\%.$$